Research Methodology

3.1 Sampling Design:

For any research; deciding the sample size and sampling technique is an important part. There are various methods for deciding the sample size. For this study, the data collection was done by stratified sampling. Based on the retail format, the researcher decided to conduct the survey of three types of retailer which include Supermarkets, Departmental Stores and Hypermarket.

The questionnaire was given to the Store Managers in each stratum and the data was collected by personal interview in the form of written responses of the questionnaire. The details of stratified random sampling is as follow,

3.1.1 Stratified Sampling Techniques

In statistics, stratified sampling is a method of sampling from a population. When sub-populations vary considerably; it is advantageous to sample each subpopulation (stratum) independently. Stratification is the process of grouping members of the population into relatively homogeneous subgroups before sampling. The strata should be mutually exclusive: every element in the population must be assigned to only one stratum. The strata should also be collectively exhaustive: no population element can be excluded. Then random or systematic sampling is applied within each stratum. This often improves the representative ness of the sample by reducing sampling error. It can produce a weighted mean that has less variability than the arithmetic mean of a simple random sample of the population.

3.1.2 Stratified sampling strategies used for the study is as follow,

Optimum allocation (or Disproportionate allocation) - Each stratum is proportionate to the standard deviation of the distribution of the variable. Larger samples are taken
in the strata with the greatest variability to generate the least possible sampling variance.

3.2 Sample Size:
The retail communication mix elements were measured from the primary data by asking relevant questions to the respondents and not from secondary data. Relevant questions regarding changes in market share, profit, growth, return on investment in all communication elements and other aspects of retail communication were asked. It became clear during the study that store managers are aware about all elements of retail communication mix and they respond positively to Interval Scale which is included in the questionnaire.
Changes in these communication mix elements can be expected to interrelate to a considerable number of retailers and to cover the commercial outcomes that would be sought by most retailers.
2 Hypermarkets, 12 Departmental Stores & 07 Supermarkets in the Pune and PCMC were covered for the research (Table 3.1). All these types of retailer come under chain stores (who have their stores in different locations in Pune and PCMC area). A total of 63 retail outlets were analyzed which consists of 9 Hypermarkets, 24 Departmental Stores and 30 Supermarkets. (Table 3.2)
The respondents include eight marketing managers and fifty four stores managers. The names of the marketing managers and store managers were identified by the researcher and the questionnaire was filled up personally by the researcher.

3.2.1 Deciding the Sample size for the retailer.
To decide the sample size for retailers, researcher used Disproportionate Stratified sampling techniques. (Ref: Marketing Research by R. Nargundkar, Pg. 100-102)
The detail explanation is as follow,

\[ n = \left(\frac{Z}{e}\right)^2 \left(\sum Wi Si\right)^2 \]
n = the sample size required to do the study

Z = The Z value represents the Z score from the standard normal distribution for the confidence level desired by the researcher. (Researcher has considered 95% confidence level which indicate from a standard normal distribution for a two sided probability value of 0.95 that is a Z score of 1.96)

Researcher has used Z=1.96, equivalent to a 95% confidence level.

e = Tolerable error. This can be decided only by the researcher, the lower the tolerance,

higher will be the sample size and higher the tolerance level, smaller will be the sample size required. Researcher has considered 16% tolerable error.

Wi = Weight to each stratum

(Wi= Ni/N )

Ni is the population of stratum i, and N is the total population targeted for the study.

Si = Standard Deviation of the concern variable for each of the strata i.

For calculating weights (Wi)

N = 18 include 02 Hypermarkets, 07 Supermarkets & 12 Departmental Stores

These are the number of types of retail outlets available in Pune.

Ni include three variables

N1 = 02 Hypermarkets
N2 = 07 Supermarkets
N3 = 12 Departmental Stores
Therefore,
\[ W_1 = \frac{2}{18} = 0.11 \]
\[ W_2 = \frac{7}{18} = 0.38 \]
\[ W_3 = \frac{9}{18} = 0.50 \]

Assuming,
Standard Deviation of Hypermarket is \( S_1 = 0.3 \)
Standard Deviation of Supermarket is \( S_2 = 0.5 \)
Standard Deviation of Departmental Store is \( S_3 = 0.7 \)

\[ n = \left( \frac{Z}{e} \right)^2 \left( W_1 S_1 + W_2 S_2 + W_3 S_3 \right)^2 \]
\[ n = \left( \frac{1.96}{0.16} \right)^2 \left( (0.11 \times 0.3) + (0.38 \times 0.5) + (0.50 \times 0.7) \right) \]

\[ n = 150.0625 \times 0.328329 \]
\[ n = 49.2698 \text{ equivalent to } 50 \]

\[ n = 50 \]

Therefore, number of stores visited by the researcher is as follows,

Hypermarkets = \( n \times W_1 \)
\[ = 50 \times 0.11 \]
\[ = 5.5 \text{ ie } 6 \]

Supermarkets = \( n \times W_2 \)
\[ = 50 \times 0.38 \]
\[ = 19 \]

Departmental Stores = \( n \times W_3 \)
\[ = 50 \times 0.50 \]
\[ = 25 \]
From the above analysis; the retailer decided to visit at least 6 Hypermarkets, 19 Supermarkets and 25 Departmental Stores totaling to 50 in Pune & PCMC area.

For this study; the researcher collected the primary data from 24 department stores, 30 supermarkets and 9 hypermarkets in Pune and PCMC area.

Table 3.1 & 3.2 gives the information about the names and number of retailers visited by the researcher.

Table 3.1: Types of Retailers

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Types of Retailer</th>
<th>Sample Size</th>
<th>Approximately Population Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Supermarket</td>
<td>30</td>
<td>150</td>
</tr>
<tr>
<td>2</td>
<td>Departmental Store</td>
<td>24</td>
<td>30</td>
</tr>
<tr>
<td>3</td>
<td>Hypermarket</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>03</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>189</td>
</tr>
</tbody>
</table>

Table 3.2 : Retailers covered for the research

<table>
<thead>
<tr>
<th>Sr. no.</th>
<th>Departmental Stores</th>
<th>Supermarkets</th>
<th>Hypermearches</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reliance Mart</td>
<td>Reliance Fresh</td>
<td>Pune Central</td>
</tr>
<tr>
<td>2</td>
<td>Vishal Megamart</td>
<td>Subhkisha</td>
<td>Big Bazaar</td>
</tr>
<tr>
<td>3</td>
<td>Pyramids</td>
<td>More</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Shoppers Stop</td>
<td>Spencers</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>K.K.Bazaar</td>
<td>Truemart</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>IndiaBulls Megastores</td>
<td>Ozone</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Fabindia</td>
<td>Indiabulls Mart</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Westside</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Megamart</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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3.2.2 Deciding the Sample size for the Customer

To decide the sample size for customers; the researcher used sample size calculation when estimating means technique\(^7\). (Ref: Marketing Research by R. Nargundkar, Pg. 92)

The explanation is as follow,

The formula for calculating the sample size when estimating means is as follows,

\[
n = \left(\frac{Zs}{e}\right)^2
\]

\(n\) = the sample size required to do the study

\(Z\) = The Z value represents the Z score from the standard normal distribution for the confidence level desired by the researcher. (Researcher considered 95% confidence level which indicate from a standard normal distribution for a two sided probability value of 0.95 that is a Z score of 1.96)

Researcher use \(Z=1.96\), equivalent to a 95% confidence level.

\(s\) = It represent the population standard deviation for the variable which the researcher is trying to measure from the study.

Researcher used following technique to decide the standard deviation of the population,

To estimate the variable named ‘usage of retail communication mix’ a scale wise minimum value is 1 and maximum value is 5 was used. Range = maximum value – minimum value, which is 4. Assuming that for all variables, 99.7 percent of the values of the variables would lie within +/- 3 standard deviation of the mean, the researcher got an approximate value of the standard deviation by dividing the range by 6. The logic is that, range is equal to 6 standard deviation for most variables. Therefore, range, when divided by 6, should give a fairly good estimate of the standard deviation. (Ref: Marketing Research by R. Nargundkar, Pg. 92)
Therefore \( s = \text{Range} / 6 = 4/6 = 0.66 \)

\( e = \) Tolerable error. This can be decided only by the researcher, the lower the tolerance,
    higher will be the sample size and higher the tolerance level, smaller will be the
    sample size required. Researcher has considered 16% tolerable error.

Where,
\( Z = 1.96 \) (95% of confidence level)
\( s = 0.66 \) (ie range/6)
\( e = 9\% \)
\( n = (1.96 \times 0.66 / 0.09)^2 \)

\[ n = 200 \]

From the above analysis; it is clear that for this study, researcher should at least meet
200 customers.
3.3 **Research Methodology Design**

“A Study of the Problems and Prospects of Organized Retail Communication Mix with Special reference to Pune city”

- Interacting with Store Managers
- Formulations of Objectives
- Formulations of Hypothesis
- Formulation of Questionnaires
- Pilot survey
- Interviews of Store Managers
- Collection of Primary data
- Analysis of Primary data
- Findings of the study
- Inferences
- Literature review
- In-depth Study
- Well Designed questionnaire
- Final Interview of Marketing Managers & Store Managers
- Statistical Qualitative & Quantitative Analysis
- Findings, Inferences & Recommendations
3.3.1 Collection of Primary & Secondary Data:

Data Collection

Secondary Data

Primary Data

1. Data collection through various magazines like Journal of Retailing, Retailers etc.
2. National & International journals, documents.
3. Literature Review.
4. Websites.
1. Pilot survey through initial questionnaire
2. Interviews
3. Observations
4. Finalizing structured questionnaire
5. Collection of primary data by taking interviews
6. Frequent interaction with the guide and deep study of the subject.

3.4 Area covered

The entire Pune & PCMC region was covered for the study and the areas include Aundh, Deccan, Karve road, Kothrud, Laxmi road, Hadapsar, Camp, Baner, Pimpri and Chinchwad.
3.5 Objectives & Hypothesis Formulation

3.5.1 Objectives of the study:

Objective 1:
To understand the communication mix tools used by organized retail sector in Pune city.

Objective 2:
To study the methods of communication to increase the store traffic on weekends, holidays and on festivals across different retail format.

Objective 3:
To understand the organized retailer’s promotional budget and various elements involved in it.

Objective 4:
To identify and analyze communication gap between the views of retailer and customer regarding the usage of communication tools.

3.5.2 Hypothesis of the study:

Hypothesis 1:
There is difference between communication methods across retail format which increase store traffic on weekend, holidays & on festivals.

Hypothesis 2:
There is no specific method used by organized retailer for determining their promotional budget.
Hypothesis 3:
The largest portion of a retailers’ communication budget is typically spent on advertising and sales promotions.

Hypothesis 4:
There is a gap between the views of retailer and the views of customer about the usage of communication tools.

Hypothesis 5:
Sales and service personnel in the organized retail organization are its ambassadors and communicate the value proposition of the entire store.

3.6 Scope and Limitation of research

3.6.1 Scope of Research:

Subject of proposed research is “A study of the problems and prospects of organized retail communication mix with special reference to pune city”

- The project was limited to Pune city only.
- Sample size
  - For Retailer = 63
  - For Customer = 200
- Type of Retailer covered for study
  1. Supermarket,
  2. Department Store and
  3. Hypermarket
This subject is basically find out the answer of following questions which always comes in the mind of Retailers,

1. How can retailers build brand equity for their stores and their private label merchandise?
2. What are the different communication gaps between retailers’ and customers’ view on retail communication mix?
3. How do retailers establish a communication budget?
4. How can retailers use different elements in a communication mix to alter customers’ decision making process?

The primary data collection was in & around Pune City. The researcher covered three type of retailers based on retail format which include Supermarket, Department Store and Hypermarket. Specifically, researcher answered questions concerning the use, effectiveness, and support of these promotional tools. The goal of this survey, then, was threefold:

1. To identify current retail practices in terms of promotion.
2. To evaluate the various forms of promotions for their ability to affect product movement and overall store sales.
3. To identify the promotional programs that retailers would like to see increased support from the customers.

3.6.2 Limitations of Research:

First, only three types of retail format (Supermarket, Department store, hypermarket) are considered for this study. Thus, the generalization of the research results is somewhat limited.
Second, the primary data was confined to Pune city and data from rural & semi urban area were not covered.

Third, during pilot study, researcher found that the marketing managers are very busy in their work hence researcher developed such questionnaire which can effortlessly filled by the store managers who are easily available.

Fourth, despite best efforts, researcher did not get all the data as some of the respondents did not apply to the task in hand.

### 3.7 Collection of Data

Structured Questionnaires were formulated for conducting survey and collecting primary data on different aspects of Retail Communication Mix like advertising, sales promotion, store atmosphere, publicity, and personal selling. The survey was conducted amongst Consumers and Store Managers of Supermarkets, Departmental stores, and Hypermarkets. The total sample of the retailers is broken down on the basis of types of retailers according to size of store, location of store, variety of products keep in the store, price of merchandise, medias used for placing the advertisement, various sales promotion schemes, various tools of store atmosphere, usage of point of purchase material, various publicity tools and different statement related with sales person, methods for allocation of promotional budget, total budget allotted for promotion, strategy to attract the customers on weekend and holidays, budget allocated for different communication tools. The data relating to customers was collected by means of a structured questionnaire. The appropriate sample size was covered in the entire Pune & PCMC area.
Table 3.3: Retailing formats in Pune considering for Research

The detail of retailers’ is as follow,

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Retail Format</th>
<th>Floor Space (Sq. ft.)</th>
<th>Description</th>
<th>The Value Proposition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hypermarkets</td>
<td>25000 - more than 100,000</td>
<td>The Hypermarket format represents a supermarket that has features of both a supermarket and a department store. A hypermarket can be termed as a big discount store that stocks about 60% percent food and 40% percent non-food stocks.</td>
<td>Low prices, vast choice available including services such as cafeterias.</td>
<td>Big Bazaar, Pune Central</td>
</tr>
<tr>
<td>2</td>
<td>Department Stores</td>
<td>20,000 - 50,000</td>
<td>Large stores having a wide variety of products, organized into different departments such as clothing, house wares, furniture, appliances, toys, etc.</td>
<td>One stop shop catering to varied consumer needs.</td>
<td>Reliance Mart, Shoppers’ Stop, Westside, Pyramids, K.K. Bazaar, Vishal Mega Mart, Fabindia, Megamart, IndiaBulls Megastores</td>
</tr>
<tr>
<td>3</td>
<td>Supermarkets</td>
<td>1000 - 5000</td>
<td>Extremely large self-service retail outlets. These are located in or near residential high streets. These stores today contribute to 30% of all food &amp; grocery organized retail sales.</td>
<td>One stop shop catering to varied consumer needs.</td>
<td>Reliance Fresh, Subhiksha, More, Spencers, Truemart, Ozone, Indiabulls Mart</td>
</tr>
</tbody>
</table>
3.8 **Statistical Methods Used**

The researcher has used following statistical tools,

**3.8.1 One-Way ANOVA**

In statistics, one-way analysis of variance (abbreviated one-way ANOVA) is a technique used to compare means of two or more samples (using the F distribution). This technique can be used only for numerical data. The ANOVA tests the null hypothesis that samples in two or more groups are drawn from the same population. To do this, two estimates are made of the population variance. These estimates rely on various assumptions (see below). The ANOVA produces an F statistic, the ratio of the variance calculated among the means to the variance within the samples. If the group means are drawn from the same population, the variance between the group means should be lower than the variance of the samples, following central limit theorem. A higher ratio therefore implies that the samples were drawn from different populations. A One-Way ANOVA (Analysis of Variance) is a statistical technique by which we can test if three or more means are equal. It tests if the value of a single variable differs significantly among three or more levels of a factor. We can say we have a framework for one-way ANOVA when we have a single factor with three or more levels and multiple observations at each level. In this kind of layout, we can calculate the mean of the observations within each level of our factor. The concepts of factor, levels and multiple observations at each level can be best understood by an example.

**3.8.2 Z-test**

A Z-test is any statistical test for which the distribution of the test statistic under the null hypothesis can be approximated by a normal distribution. Due to the central limit theorem, many test statistics are approximately normally distributed for large samples. Therefore, many statistical tests can be performed as approximate Z-tests if the sample size is not too small. In addition, some statistical tests, such as comparisons of means between two samples, or a comparison of the mean of one
sample to a given constant, are exact Z-tests under certain assumptions. The most general way to obtain a Z-test is to define a numerical test statistic that can be calculated from a collection of data, such that the sampling distribution of the statistic is approximately normal under the null hypothesis. Statistics that are averages (or approximate averages) of approximately independent data values are generally well-approximated by a normal distribution. An example of a statistic that would not be well-approximated by a normal distribution would be an extreme value such as the sample maximum. Z-test is a statistical test where normal distribution is applied and is basically used for dealing with problems relating to large samples when n \geq 30.

3.8.3 Interval Estimation of population proportion through Range test

As the sampling distribution of proportions follows the central limit theorem, hence for 95% level of confidence (ie at 5% level of significance), the confidence level will be p +/- 1.96*σ p.

Where, p = sample proportion of the desired attribute (say proportion of defectives in a sample)

σ p = standard error of proportion, because the population proportion is not known it can be approximated by the sample proportion (p), which is given by

- σ p = √ p(1-p)/n
- where n = sample size

3.8.4 Binomial Distribution:

In probability theory and statistics, the binomial distribution is the discrete probability distribution of the number of successes in a sequence of n independent yes/no experiments, each of which yields success with probability p. Such a success/failure experiment is also called a Bernoulli experiment or Bernoulli trial. In fact, when n = 1, the binomial distribution is a Bernoulli distribution. The binomial
distribution is the basis for the popular binomial test of statistical significance. A
binomial distribution should not be confused with a bimodal distribution. It is
frequently used to model number of successes in a sample of size n from a
population of size N. Since the samples are not independent (this is sampling without
replacement), the resulting distribution is a hyper geometric distribution, not a
binomial one. However, for N much larger than n, the binomial distribution is a good
approximation, and widely used.

3.9 Utility of the study

The study not only reveals that the store image influences retail image but also the
study revealed several additional aspects of this association of which store managers
and retailers should be aware. First, the effects of a store as a brand on retail image
were highlighted by this study. Retailers and store managers should be aware of the
implications of the basic finding. The measures of retail store image used in this
study show promise and potential in isolating the dimensions of retail image. This is
important, because, as the study pointed out, determinants of retail image may
influence one dimension of image but not others. Store managers and retailers should
realize that the influence of brand image relates to the usage of advertising, sales
promotion, store atmosphere, publicity and personal selling. Although there is
considerable room for improvement in these measures of retail store image, the detail
focus on the advertising media, sales promotion schemes, store atmosphere tools and
publicity tools allows future research to determine what additional factors influence
the separate dimensions of retail image in different population other than pune. The
creation of consumer perceptions concerning a brand is a crucial strategic decision
facing retailers. It must be remembered that store managers and retailers are not
merely promoting a physical good or service, rather they promote an image. A
store’s image is a combination of a consumer’s subjective perceptions of the
product’s innate characteristics, and the environment that surrounds a brand – the retail setting. Ultimate success of a brand and a retailer is determined by how closely the image of the selling organization and the product meet the expectations of the consumer. The following analytical parts are truly supportive to organized retailers,

1. The research helps the organized retailer to build brand equity for their stores and their private label merchandise, it also help the retailer about the strengths and weaknesses of different tools of communication. Also it helps the retailer to establish a communication budget. Research reflect the elements of communication (Advertising, sales promotion, store atmosphere, publicity, word of mouth etc) which help retailer about the proper usage of these elements which help them to increase traffic on weekend and holidays.

2. The study also provide the information regarding the Method of Communication Budget adopted by different types of retailers for deciding their promotion budget which is actually use for the new entrant in retailing. From the data analysis, researcher argues that the different retailers use dissimilar set of methods to decide their promotion budget. It means that based on the type of retailer, they are using a combination of methods to decide their promotion budget. The study also provides the information regarding Retailers’ spending of promotion budget which is maximum within the bracket of 21-40% and 41-60%. Under the bracket of 21-40%, 70% retailers spend their budget on advertising & sales promotion. And under the bracket of 41-60%, 86% retailers spend their budget on advertising & sales promotion. Therefore researcher conclude that the largest portion of a retailers’ communication budget is typically spent on advertising and sales promotions followed by store atmosphere, publicity and salesperson training.
3. The study also provides the information regarding the Communication Strategies adopted by different types of retailers to attract the customers in their stores. It suggests the retailer about the usage of communication tools by the retailer to increase the store traffic on weekends, holidays and on festivals. From the data analysis, it is clear that the retailers use a set of communication strategies to attract the customers in their stores. The Supermarkets, Departmental Stores and Hypermarket use unique set of communication strategies. Supermarket use a set of communication strategies which includes in store advertising, frequent shopping programs and special offers on weekend and holidays. Hypermarket use a set of communication strategies which includes in store advertising, frequent shopping programs and special offers on weekend and holidays and Targeted Direct Mail. On the other hand Hypermarket use special set of communication strategies which includes Chain wide sweepstake, In store Advertising, Frequent Shopping Programs, Special offers on weekend and holidays, Special events on weekend and holidays and Targeted Direct Mail. Hence we conclude that a unique set of communication strategies used by different types of retailer (Supermarket, Departmental Store, and Hypermarket) to attract the customer in their store.

3.10 Scope for future research:

1. To conduct this study on other types of retail format other than supermarket, department store and hypermarket.
2. To conduct this study in unorganized retailing sector.
3. To conduct this study on all India basis including rural & semi-urban markets.
4. To test the framework on a wider scale before implementation.
5. To repeat this study periodically after five years to measure the impact of retail communication tools.